OC

Quality Control

Memo

DQA: Date: **WORK ORDER NON-CONFORMANCE / UPDATE** Yes / No NCR: QA Closed: Date: **AGAINST DEPARTMENT/PROCESS** DISPOSITION Work Order: Water Jet Skid-tube Crosstube Engineering Rework Scrap Machining Small Fab Prod. Eng. Coor. Part No. Use-as-is Thermoforming Finishing Rec/Store/Packaging Composite Supplier Work Order Update Large Fab NCR No. Description of work order update Initial Action Sign & Root Step Chief Eng Description Date Verification QC Inspector Qty or Non-conformance Date Cause Doc/Data Equip/Tooling Operator Material Setup

Quality

Other

	FAULT CATEGORY										
Landing	Gear	General		_		_		_			
	Bending	Bend		Grain		Ovalized		Pressure/Forced			
	Centre Not Concentric to O/S	BOM/Route		Hardware		Over/Under tolerance		Temperature/Cure			
	Cracks	Broken/Damaged		Inspection Incomplete		Part Incorrect	Ĺ	Weld			
	Crushed/Crimped.	Burrs		Instructions Incomplete/Unclear		Part Lost/Missing	L	Wrong Stock Pulled			
	Cuffs	Contamination		Maintenance		Part Moved					
	Heat Treat	Countersink		Mislabeled		Positioned Wrong	_	_			
	Inspection Strip in Tube	Cut Too Short		Misread		Power Loss/Surge	L	Other.			
	Ripples in Bend	Drill Holes		Offset							
	Torque Waves in Extrusion	Drawing		Out of Calibration							
	Turning Sequence	Finish		Out of Sequence							
	Wave/Twist in Tube	Folio	Outside Dimensions								

Other Process Supplier Training Unapproved

Work	Order	ID	96175
* * • • • • • • • • • • • • • • • • • •	~ ~ ~ ~ ~		

96175

Page 2

January-23-13 12:47:33 PM Item ID: D2353 Accept *N900040100* Setup Start Revision ID: Stiffener Item Name: Start Oty: 6.00 Start Date: 1/21/13 Cust Item ID: Required Date: 2/06/13 Req'd Oty: 6.00 **Customer:** Reference: Run Process Plan: Date: **Approvals:** Tooling: Date: Stop SPC (Y/N): Date: Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reiect Insp. Work Center 1D **Description** Otv Run Hours Code Oty Number Stamp 130 0.00 NC BRAKE *120* Brake NC 0.00 Memo Brake NC Bend per Dwg D2353 140 QC5- Inspect part completeness to step on W/O 0.00 *140* QC 0.00 Memo Quality Control 150 Chemical Conversion Coat per QSI005 4.1 0.00 6 18 ,3-3-7 *150* HandFinish 0.00 Memo Hand Finishing

											DQ	A:	Date:		
NCR: Y	Yes	/ No				WORK ORDER NON-C	COI	NFORM	MANCE / UPD	DATE	OA Class		Date:		
		•					_			<u> </u>	QA Close	eu:	Date:		_
Work Orde	ar.					DISPOSITION		AGAINST DEPARTMENT					OCESS		
	Part No.					Rework Scrap	Skid-tube Crosstube Machining Small Fab			Water Jet Prod. Eng. Coor. Rec/Store/Packaging			Engineering Quality		
NCR N	No.					Use-as-is Work Order Update			noforming Large Fab	Finishing Composite	Rec/S		Supplier	Other	İ
Root					Descri	otion of work order update		Initial	Acti	on	Sign &				
Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Descri	ption	Date	V	erification	QC Inspector	
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved	-												·		
						Ė.	AUL	LT CATE	GORY						
Landi		1		·		General	_	1 . 3 .			7			<u> </u>	
	-	Bending Centre No	t Concer	ntric to (o/s	Bend BOM/Route		Grain Hardwa	re		Ovalized Over/Un	der tole	rance	Pressure/Forced Temperature/Cure	<u>,</u>
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Inco	rrect		Weld	
		Crushed/0	Crimped.			Burrs		Instruct	ions Incomplete/U	Inclear	Part Lost	/Missin	g	Wrong Stock Pulle	d
		Cuffs				Contamination		Mainte	nance		Part Mov	red		-	
		Heat Trea	t			Countersink		Mislabe	led		Positione	ed Wron	ng	_	
		Inspection	Strip in	Tube		Cut Too Short		Misread	I		Power Lo	ss/Surg	ge	Other	
		Ripples in	Bend		Г	Drill Holes		Offset			_				

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ordensian January 23-13				*961	75*							Page 3
Item ID: Revision ID: Item Name: Start Date:	D2353 Stiffener 1/21/13	Start Qty: 6.00	*6*	Accept	*N900		100) *	Setup	Start Stop	*N:	S1* S2*
Required Date: Reference: Approvals:		Req'd Qty: 6.00	*6* 	Tooling:	Customer:	ate:	-]	Run	Start	*N	R1*
••				_		ate:				Stop	*N	R2*
Sequence ID/ Work Center I 155 *155* QC Quality Control	D	Operation Description QC7-Inspect Chemical C	Conversion Coat	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Qty	,	Reject Number <i>13-3</i> -	Insp. Stamp
*160 *160* Powdercoat Powder Coating		Black Sandtex (Ref) (2) Memo SMART TIM	157) per QSI005 4.3 16: FINISH TIME:	0.00 0.00 550 VPN TEMPERATUR	· Æ:			6	b	, ,	bl 1	'3- <i>3-1</i> 3.
170 *170* QC Quality Control		QC3- Inspect Part Finisl Memo	1	0.00	3.3.13			۵			<u> </u>	

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFOR	MANCE / UP	PDATE					
											Q,	A Closed:	Date	2:	
Work Orde	er.					DISPOSITION				AGAINST D	EPA	RTMENT/	PROCESS		
Part f	No.					Rework Scrap Use-as-is Work Order Update			Skid-tube Machining nofcrming Large Fab	Crosstube Small Fab Finishing Composite		Rec/Stor	Water Jet I. Eng. Coor. e/Packaging Supplier		Engineering Quality Quality Other
Root						ption of work order update	1	Initial	ŀ	ction		Sign &			
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Desc	cription		Date	Verification		QC Inspector
Doc/Data Equip/Tooling Operator Material Setap Other Process Supplier Training Unapproved															
						F	AUI	LT CATE	GORY						
Landi	ng (Gear				General		-		-	_		_		
	-	Bending	ot Conco	ntric to		Bend BOM/Route	-	Grain	are		_	valized	tolerance		Pressure/Forced Temperature/Cure

Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Broken/Damaged

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Burrs

DQA:

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Date:

Weld

Other

Wrong Stock Pulled

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cracks

Cuffs

Heat Treat

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord January-23-13				*961	75*						Page 4
Item ID: Revision ID: Item Name:	D2353 Stiffener			Accept	*N900	040	100)* s	etup Sta	- 1	IS1* IS2*
Start Date: Required Date Reference:	1/21/13 : 2/06/13	Start Qty: 6.00 Req'd Qty: 6.00	*6* *6*		Cust Item II Customer:	D:				-	
Approvals:	00.	lan:	Date:	Tooling: SPC (Y/N):	Da	te:		F	tun Sta St	" 1	JR1* JR <i>2</i> *
Sequence ID/ Work Center I 180 *180* Packaging Packaging	D	Operation Description Identify as per dwg & St	ock Location:	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Numbe	Insp. r Stamp
190 *1 9 0*		QC21- Final Inspection	- Work Order Release	0.00					13	3/3/	14 1

Memo

Quality Control

												DQA:	Da	te:	
NCR: \	res /	No				WORK ORDER NON-C	O	NFOR	MANCE / UPI	DATE				٠	
.						T		-		<u></u>		QA Closed:	Da	te:	
Work Orde	ar.					DISPOSITION				AGAINST D	EF	PARTMENT/	PROCESS		
VVOIK OTU						Rework]		Skid-tube	Crosstube	\neg		Water Jet	П	Engineering
Part N	No.					Scrap			Machining	Small Fab	٦	Prod	d. Eng. Coor.	-	Quality
						Use-as-is	1		noforming	Finishing			e/Packaging	-	Other
NCR I	No					Work Order Update]		Large Fab	Composite			Supplier		
Root				1	Descri	ption of work order update	ا ا	nitial	Act	tion		Sign &			
Cause		Date	Step	Qty		or Non-conformance	I	ief Eng		ription		Date	Verificatio	n	QC Inspector
Doc/Data	- '	Jace	эсер	Qty		or won-comormance	Cit	iici Liig	Desci	приоп	\dashv	Date	Vermeatio		QC 1115pector
Equip/Tooling	H														
Operator	Н														
Material															
Setup															
Other															
Process															
Supplier	П														
Training							1								
Unapproved															
						F.	AUL	T CATE	GORY				·		
Landi	ng Gea	r				General		-		-		•			•
	Be	nding				Bend		Grain				Ovalized			Pressure/Forced
	Cei	ntre No	t Concer	ntric to	o/s	BOM/Route	L	Hardwa	ire			Over/Under	tolerance		Temperature/Cure
	$oldsymbol{oldsymbol{ ext{H}}}$	icks				Broken/Damaged	\perp	4 '	ion Incomplete	L		Part Incorre		<u></u>	Weld
	⊢		Crimped,		<u></u>	Burrs		4	ions Incomplete/	Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
	Cu					Contamination		Mainte				Part Moved			
	Не	at Trea	t]	Countersink		Mislabe	eled			Positioned V	Vrong		

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Other

Power Loss/Surge

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

January-23-13 12:47:32 PM

Work Order ID:

96175

Parent Item:

D2353

Parent Item Name:

Stiffener

Start Date: 1/21/13

Required Date: 2/06/13

Page 1

Start Qty: 6.00

Required Qty: 6.00

Comments:

IPP Rev: A Removed from 9 Digit 05-11-10 EC

IPP: B 06.11.15 waterjet

EC

IPP: c 06.12.07 ecn 836 ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.050 2024-T3 .050 sheet		Purchased	No			100	sf	250.8968	0.1463	<u> 1924</u> 0			Jm 13-3-
				Location	•	Loc Oty	<u>Lo</u>	c Code					
				MAT022		250.8968408							
				1170	684	22.4							
				1213	216	91.2968408							
				121	889	137.2							
				12	1643				124	643			

			DQA:	Date:
NCR: Yes / No	WORK ORDER NON-CON	FORMANCE / UPDAT	QA Closed:	Date:
Work Order:	DISPOSITION		AGAINST DEPARTMENT/	PROCESS
Part No.	Rework		rosstube Proc	Water Jet Engi

	,									QA Closed:	Date:	•
Work Orde	r·				DISPOSITION				AGAINST DI	PARTMENT	PROCESS	
Part N					Rework Scrap		1	Skid-tube Machining	Crosstube Small Fab	-1	Water Jet d. Eng. Coor.	Engineering Quality Other
NCR N	0.				Use-as-is Work Order Update]		noforming Large Fab	Finishing Composite	Recystor	Supplier	Other
Root				Descri	ption of work order update	lı	nitial	Ac	ction	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chi	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved		·										
onapproved				<u>I</u>	F	AUL	T CATE	GORY		<u> </u>		
Landir	ng Gear				General							
	Bending Centre No	ot Conce	ntric to	o/s	Bend BOM/Route Broken/Damaged			ion Incomplete		Ovalized Over/Under Part Incorre	ct	Pressure/Forced Temperature/Cure Weld
	Crushed/ Cuffs Heat Trea				Burrs Contamination Countersink			tions Incomplete, enance eled	/Unclear	Part Lost/M Part Moved Positioned V	·	Wrong Stock Pulled
	Inspectio	n Strip in	Tube		Cut Too Short		Misrea	d		Power Loss/	'Surge	Other `
	Ripples ir				Drill Holes	Ш	Offset					
ļ	Torque W	aves in l	extrusio	n	Drawing	Ш		Calibration				
	Turning S	equence			Finish		Out of	Sequence				
	Wave/Tw	ist in Tul	oe		Folio		Outside	e Dirnensions				

DART AEROSPACE LTD	Work Order:	96175
Description: Stiffener	Part Number:	D2353
Inspection Dwg: D2353 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X	First Article		Prototype
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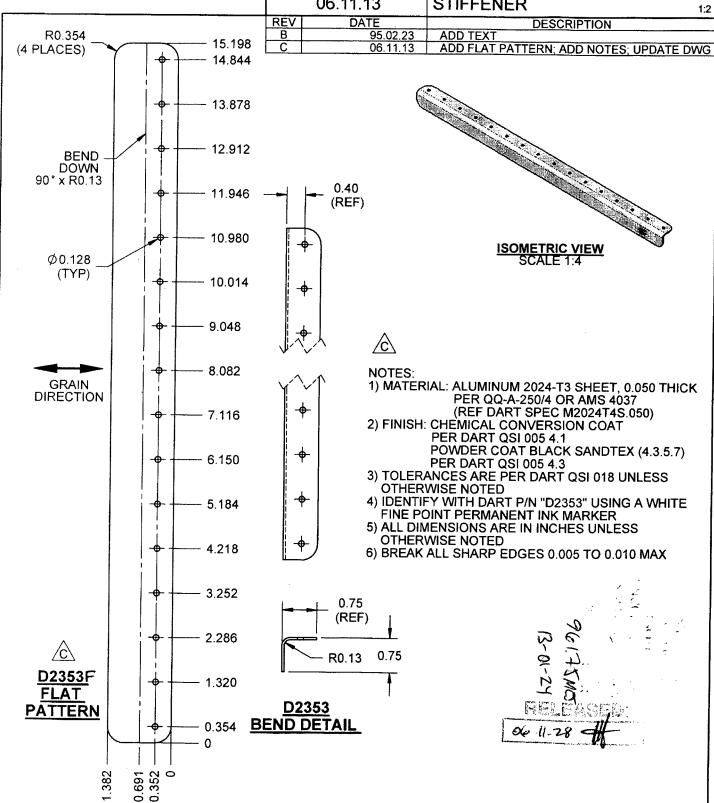
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
15.198	+/-0.010	15.198"	_		7	Throng
0.966	+/-0.005	0968"	-		U	Jamoib Jamoi
0.354	+/-0.010	0,35%"	_		V	
Ø 0.128	+0.005/-0.000	0.128"	_		V	
-> Grain	Direction	-				
		:				

Measured by: Jm	Audited by: Sm	Prototype Approval:	N/A
Date: 13-3-3	Date: /3 3 4	Date:	N/A

Rev	Date	Change		Revised by	Approved
Α	04.06.25	New Issue	P/O D350-616-015	KJ/JLM ,	- 1
В	06.12.20	Dwg Rev. updated		KJ/JLM	9.11
-					



DESIGN DRAWN BY DART AEROSPACE LTD $\subset \mathbb{B}$ BW HAWKESBURY, ONTARIO, CANADA APPROVED. DRAWING NO. CHECKED REV. C D2353 SHEET 1 OF 1 DATE TITLE **SCALE** 06.11.13 STIFFENER 1:2



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